

APPENDIX A

**BETZE SUPPLEMENTAL ENVIRONMENTAL IMPACT STATEMENT
(SEIS) MITIGATION PLAN**

INTRODUCTION

The BLM issued the Final Environmental Impact Statement (“EIS”) for the Betze Project in 1991. The 1991 EIS included a description of environmental impacts projected to result from Barrick Goldstrike Mines Inc’s (“Barrick”) dewatering operations. In connection with the 1991 EIS and Record of Decision, Barrick provided mitigation for those impacts.

The BLM has now prepared a Supplemental Environmental Impact Statement (“SEIS”) for the Betze Project. The SEIS provides a detailed analysis of the projected impacts of Barrick’s expanded dewatering operations (compared to 1991) and the installation of a second pipeline for Barrick’s water management system. The SEIS concluded that the second pipeline would not have any substantive effects

Therefore, the monitoring and mitigation proposed as a result of the analysis completed by the SEIS is related only to the expanded dewatering operations. Barrick has subsequently withdrawn the pipeline application.

The SEIS used actual pumping rates since 1991 and actual drawdowns to update the hydrogeologic model and the resulting future pumping projections. A purpose of the SEIS was to define appropriate mitigation measures for impacts resulting from the increased pumping rates and pumping volumes, in keeping with the Betze Record of Decision. The SEIS was prepared in conjunction with a Cumulative Impact Analysis (CIA) which identified the potential impacts of the cumulative dewatering from Barrick’s Betze Project, Newmont’s South Operations Project Area (SOPA), and Newmont’s Leeville Project, all existing or proposed mining operations on the Carlin Trend.

This Mitigation Plan describes the mitigation that Barrick has agreed to undertake to fulfill the purpose of the SEIS with respect to impacts or potential impacts, whether direct, indirect or cumulative, described in the SEIS. Some of the mitigation, most notably the Willow Creek Plan (see section I.C. below) and the conveyance of the Rock Creek water right to the Nevada Division of Wildlife and BLM (see section VII below), are effectively “pre-mitigation” of potential impacts that may or may not occur.

SUMMARY TABLE OF POTENTIAL ADDITIONAL IMPACTS AND MITIGATION

| Resource | Potential Additional Impacts of Dewatering | Mitigation |
|--|--|--|
| Riparian Habitat | Impacts may be of longer duration, but not expected to affect as many acres. | - The Willow Creek Plan, a program to achieve restoration of 635 acres of riparian habitat and associated uplands in the headwaters of Willow Creek. |
| Seeps and Springs | Duration of impacts may be extended, but fewer seeps and springs expected to be affected. | - Improvement of 15 springs in cooperation with BLM and NDOW. |
| Antelope Creek Flows | Flows may be reduced in the lower perennial reaches. | - Additional monitoring. |
| Humboldt River Water Quality | Potential effects of naturally occurring constituents of discharged water on aquatic biota. | - \$25,000 to USFWS for biota monitoring in each year in which discharge occurs. |
| Terrestrial Wildlife, including Sensitive Species. | Impacts are tied to spring and riparian impacts. | - The Willow Creek Plan will achieve riparian as well as upland benefits for terrestrial wildlife. |
| Sage Grouse | Potential Impacts to riparian areas. | - The Willow Creek Plan will enhance Sage Grouse nesting areas and nearby riparian habitat. - \$50,000 fund for habitat enhancement projects. |
| Springsnails | Potential reduction to flow in springs on private land inhabited by a <i>Prygulopsis gibba</i> , a widespread species. | - \$50,000 research grant to study springsnail relocation techniques. |
| Lahontan Cutthroat Trout | Impacts beyond those analyzed in the 1991 EIS and the 1994 Meikle EA and BO are not predicted. | - The Willow Creek Plan will result in the improvement of 20.5 miles of LCT habitat and restoration of former habitat. |
| Cultural Resources | There is a potential for reduction of the base flow of Rock Creek in the vicinity of the Rock Creek TCP. | - Conveyance of 1.5 cfs in-stream flow right to Nevada Division of Wildlife and BLM. |
| California Floater | The base flow in Rock Creek where the species has been identified may be diminished. | - Conveyance of 1.5 cfs in-stream flow right to Nevada Division of Wildlife and BLM. |

RESOURCES OF CONCERN

I. Riparian Vegetation

A. Summary of Projected Impacts

The 1991 Betze EIS predicted impacts to 330 acres of riparian habitat. In connection with the 1991 Betze EIS and Record of Decision, Barrick provided mitigation for the projected impacts to riparian vegetation. Based on extensive monitoring data and updated and recalibrated hydrologic model projections, the SEIS disclosed that the Betze dewatering operations will affect fewer acres of riparian habitat than expected by the 1991 EIS though the duration of the impacts may be extended. The SEIS projects that the direct impacts to riparian habitat will be only 150 acres, instead of the 330 acres previously projected, while the duration of the time period between the end of mining and recovery of the ground water table to a steady state will increase from an estimate of 100 years in 1991 to the current estimate of 230 years. The cumulative impact to riparian vegetation due to dewatering for the Betze Project, SOAPA, and Leeville Project is projected to be as much as 618 acres. Considering the direct impacts due to each mining project, the impact to riparian acreage attributable to Barrick dewatering is less than the impact forecast in 1991. However, the duration of the impact may be substantially longer.

B. Monitoring

Monitoring will consist of a continuation of the existing monitoring plan established by the 1991 EIS and expanded since then. As established by the 1991 EIS, monitoring will be conducted by Barrick until such monitoring is no longer considered necessary by regulatory authorities. After December 31, 2030, the costs of said monitoring will be paid for by the Long Term Monitoring Trust Fund established by Barrick.

C. Mitigation

Barrick is providing additional mitigation that will benefit riparian habitat. The drainage area upstream of the Willow Creek Reservoir is historically Lahontan Cutthroat Trout habitat. The perennial streams include Upper Willow Creek, Lewis Creek and Nelson Creek. The riparian and aquatic habitats along and in those creeks have been degraded by historic livestock grazing. Virtually the entire length of those creeks is on private property, most of which is owned by Barrick. This creates an excellent opportunity for Barrick and the BLM to engage in watershed restoration in the Willow Creek Reservoir watershed as off-site mitigation for several resources.

The Upper Willow Creek Habitat Enhancement Plan (the "Willow Creek Plan") has been developed through a cooperative effort between BLM, NDOW, and Barrick. The Willow Creek Plan encompasses three basic elements: (1) initial grazing elimination, followed by careful grazing management to enhance and preserve riparian areas as well

as uplands; (2) criteria and associated monitoring to insure that grazing management promotes improvement and protection of riparian and stream habitat; (3) creation of a conservation easement on Barrick's private lands to enable BLM to assure that the Willow Creek Plan is carried out without regard to changes in land ownership.

Under the Willow Creek Plan, Barrick is providing additional riparian mitigation. Approximately 635 acres of degraded riparian habitat along approximately 20.5 miles of Lewis Creek, Nelson Creek and Willow Creek will be rested from grazing, allowed to restore itself through natural processes, and managed to maintain its enhanced quality. The Willow Creek Plan is attached as Appendix A.

II. Water Resources

A. Seeps and Springs.

1. Summary of Projected Impacts

The 1991 Betze EIS projected potential flow reductions in 111 seeps and springs. This SEIS projects that Betze dewatering might have direct impacts on only 70 springs, though the duration of impact is likely to be longer. Of those, 44 have a moderate-to-high likelihood of impact, 26 have a low likelihood of impact (DSEIS at pp. 3-98 to 100). The DSEIS at p. 5-9 notes that the CIA identifies 182 springs that may be affected in the cumulative effects area.

2. Monitoring

Monitoring will consist of a continuation of the existing monitoring plan established by the 1991 EIS and expanded since then. As established by the 1991 EIS, monitoring will be conducted by Barrick until such monitoring is no longer considered necessary by regulatory authorities. After December 31, 2030, the costs of said monitoring will be paid for by the Long Term Monitoring Trust Fund established by Barrick.

3. Mitigation

Mitigation for the loss of these springs was provided for in the 1991 Betze ROD. However, over a three-year period following the issuance of the FSEIS, Barrick will improve up to fifteen springs by such means as are deemed appropriate on a site-specific basis. Such measures might include, but are not limited to, fencing, piping and installing water troughs away from the springheads to eliminate livestock trampling. The nature of the improvements and the springs to be improved will be determined by consultation among BLM, NDOW and Barrick.

B. Antelope Creek Flows

1. Summary of Projected Impacts

The SEIS, relying on the CIA and Newmont's hydrologic model, projects potential cumulative dewatering impacts in the form of temporary flow reduction in the lower end of the perennial reach of Antelope Creek. Such flow reductions would result in a decrease in riparian vegetation with indirect effects to other resources which depend on riparian vegetation. This portion of Antelope Creek is on private land owned by a third party.

2. Monitoring

In response to a public comment questioning the adequacy of surface monitoring on Antelope Creek, Barrick has installed an additional stream flow monitoring station in the perennial reach of Antelope Creek. The station is designated ANT-1a and is located between ANT-1 and the confluence of Antelope Creek and Squaw Creek. The approximate location of ANT-1a is shown in Fig. 1. Monitoring will be performed on the same schedule and for the same parameters as for ANT-1. The results of monitoring will be incorporated into reports submitted pursuant to the Boulder Valley Monitoring Plan.

3. Mitigation

Impacts to riparian vegetation would be mitigated under the Willow Creek Plan (see section I.C. above).

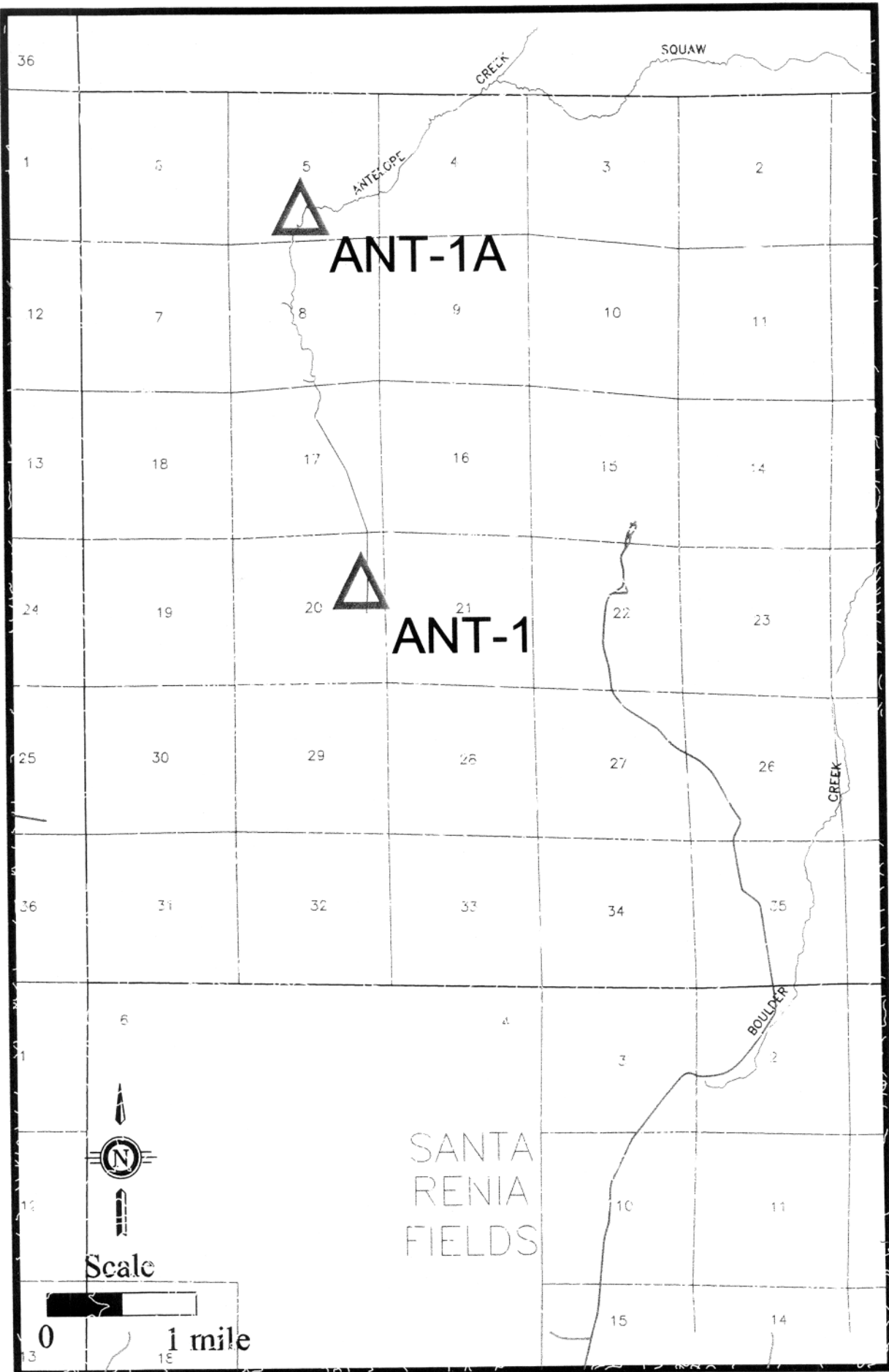
C. Humboldt River Water Quality

1. Summary of Projected Impacts

Barrick has not discharged water into the Humboldt River since February 1999. The USFWS has raised questions about the effect of naturally occurring constituents contained in the discharge on the Humboldt River and the Humboldt Sink. In its comments on the DSEIS, USFWS specifically requested that Barrick continue to support the USFWS Humboldt River Aquatic Biota Monitoring study.

2. Monitoring

As presented by the DSEIS at page 1-26 Barrick has collected water quality information and other data in cooperation with the US Fish and Wildlife Service, the Nevada Department of Conservation and Natural Resources, and the US Geological Survey. In addition Barrick has provided funding to the US Geological Survey for a study of the Humboldt River Basin. Barrick also cooperates with the US Fish and Wildlife Service in the collection of aquatic biota samples which are used as part of a monitoring program.



2. Mitigation

In any year in which Barrick discharges water to the Humboldt River, Barrick will provide \$25,000 to USFWS for its use in the Humboldt River Aquatic Biota monitoring study.

III. Terrestrial Wildlife

A. Summary of Projected Impacts

The potential impacts to terrestrial wildlife described in the SEIS are associated with spring and riparian impacts. See DSEIS at p.3-171 to 172; 5-22 to 23. As explained above, the acres of potential impacts to riparian vegetation and the number of potentially impacted springs are less than those analyzed and mitigated in connection with the 1991 EIS.

B. Monitoring

Additional monitoring will be conducted in accordance with the Willow Creek Plan (see section I.C.).

C. Mitigation

By enhancing and restoring 635 acres of riparian habitat, the Willow Creek Plan will also benefit terrestrial wildlife. The grazing management activities necessary to achieve the riparian enhancement will also result in improvement to approximately 12,000 acres of upland habitat used by terrestrial wildlife. One of the monitoring sites that will be evaluated under the Willow Creek Plan is upland habitat important to mule deer and other terrestrial wildlife species. In addition, Barrick's proposed spring enhancement (section II.A.) will benefit terrestrial wildlife.

IV. Sensitive Species (Terrestrial)

A. General

1. Summary of Projected Impacts

The SEIS identifies a variety of sensitive terrestrial species, some of which are known to occur in the study area and some of which only might occur, and accordingly are assumed to occur in the study area. See DSEIS at p.3-212-214 and 5-25&26. Impacts to such species are also associated with impacts to springs and riparian vegetation. Id.

2. Monitoring

No additional monitoring will be carried out under this mitigation plan. Both the BLM and the Nevada Division of Wildlife monitor wildlife populations and conditions.

3. Mitigation

Impacts to sensitive terrestrial species are based on impacts to springs and riparian habitat, therefore the Willow Creek Plan and spring enhancement program will serve as mitigation for any impacts to sensitive terrestrial species. The Willow Creek Plan will enhance and restore 635 additional acres of riparian habitat.

B. Sage Grouse

1. Summary of Impacts

The DSEIS indicates that to the extent dewatering impacts riparian vegetation, it might impact Sage Grouse (DSEIS at p. 3-213).

2. Monitoring

No additional monitoring will be carried out under this mitigation plan. Both the BLM and the Nevada Division of Wildlife monitor wildlife populations and conditions.

3. Mitigation

The Willow Creek Plan (section I.C.) will restore 635 acres of degraded riparian habitat. The uplands in the Enhancement Area are known to include Sage Grouse nesting areas. In fact, the monitoring site designated as Key Area Number 3 includes Sage Grouse nesting habitat. The Willow Creek Plan specifically provides for monitoring of improvements in that key area. By improving riparian habitat and known Sage Grouse nesting habitat, the Willow Creek Plan will provide benefits to Sage Grouse.

In addition Barrick will establish a \$50,000 fund to be used by the BLM on Sage Grouse habitat enhancement projects.

V. Sensitive and Candidate Species (Aquatic)

A. Summary of Projected Impacts

As discussed in the FSEIS at pp (____), no direct impacts to sensitive aquatic species are projected. There is a possibility that dewatering may cause a reduction in flow in lower Rock Creek which may affect the California floater, a Nevada BLM

sensitive species.

B. Monitoring

No additional monitoring is proposed. The Boulder Valley Monitoring Plan monitors stream flow in streams and springs in the area of potential impact. The BLM and the Nevada Division of Wildlife conduct surveys of fish and wildlife populations and habitat conditions.

C. Mitigation

Barrick will contribute up to \$50,000 to support research, as directed by a cooperative working group comprised of representatives of BLM, NDOW, USFWS, Desert Research Institute and Barrick. The research will be directed at identifying methods for springsnail relocation. Such methods could be a valuable mitigation tool in the future. In addition, Barrick will provide manpower to assist Desert Research Institute in the development of a computerized springsnail database.

The conveyance of a 1.5 cfs water right in Rock Creek, as described in section VII. C., will also provide mitigation for the California floater population in lower Rock Creek.

VI. Lahontan Cutthroat Trout

A. Summary of Projected Impacts

As explained in greater detail in the DSEIS (pp. 3-89 & 3-101) and the FSEIS (pp ____), continued monitoring tends to confirm earlier conclusions that Barrick's dewatering activities are unlikely to affect LCT habitat along the eastern slope of the Tuscarora Mountains. The modeling projects that Barrick's drawdown, standing alone, will not affect perennial streams inhabited by LCT. However, there is a possibility that the cumulative impacts of dewatering from the three mining projects, Betze, SOAPA, and Leeville could result in a temporary reduction in flow in those portions of Jack, Little Jack, Coyote, and Beaver Creeks below 6,000 ft in elevation.

B. Monitoring

Barrick will provide additional piezometers to measure changes in water level as described in this section. If the cone of depression advances towards the LCT streams which have been identified by the hydrologic modeling as potentially impacted, Jack, Little Jack, Coyote, and Beaver, this additional monitoring will help identify the extent of such impacts before they occur and provide sufficient advance warning for an effective response.

NA-37a and NA-37b are existing piezometers located to the northeast of the Betze pit near the crest of the Tuscarora Mountains. They are "nested" piezometers at a site

located between the mine and the LCT streams of the Tuscarora Mountains. See figure 2. To date, the water levels in the screened intervals of NA 37a and b have not changed. NA-37a is screened from 181 feet below collar to 239 feet below collar, or an elevation of 6,656' amsl to 6598' amsl. NA-37b is screened from 743 feet below collar to 803 feet below collar, or an elevation of 6,096' amsl to 6,036' amsl. In the event that the water level in NA-37a or NA-37b drops 10 feet below its annual average elevation, Barrick will drill a replacement piezometer (the "First Step-Out Piezometer") to monitor the same hydrologic units, generally further to the northeast, at a location agreed in consultation between BLM and Barrick. BLM and Barrick will consider the cost of drilling, access, landownership and additional surface disturbance in establishing the new location.

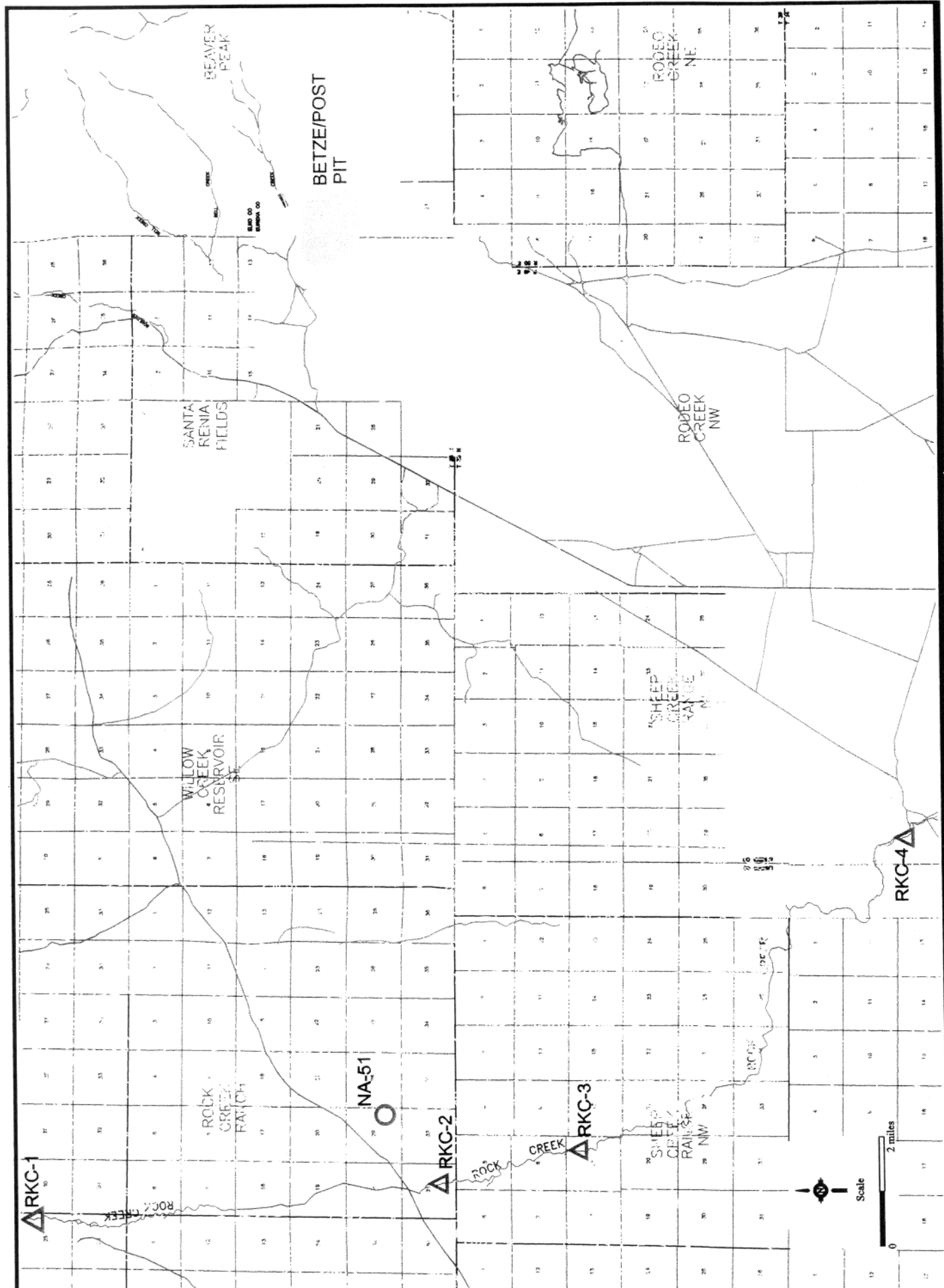
In the event the water levels in the First Step-Out Piezometer drop more than 10 feet from their average annual levels (as determined over the first five years of monitoring - or sooner if deemed prudent by the BLM) Barrick will install another step-out piezometer in accordance with the procedures outlined above (the "Second Step-Out Piezometer"). If the Second Step-Out Piezometer shows a change of more than 10 feet (determined in the same manner as for the First Step-Out Piezometer) Barrick will drill a third step-out piezometer in accordance with the procedures outlined above.

NA-51s is an existing piezometer located to the west of the Betze pit. It lies between the measured drawdown from dewatering operations and Rock Creek. See figure 3. To date water levels in NA-51s have shown no impact from dewatering. NA-51s is screened from 180 feet below collar to 220 feet below collar, or an elevation of 4778' amsl to 4738' amsl. In the event water levels in NA-51s show more than 10 feet of drawdown from the annual average water level in NA-51s, Barrick will drill another piezometer closer to Rock Creek at a location agreed in consultation between Barrick and the BLM.

C. Mitigation

Barrick has agreed to LCT habitat enhancement (section I.C.) and additional groundwater monitoring as described above. The Willow Creek Plan will enhance LCT habitat and thereby increase LCT numbers. The grazing restrictions provided in the plan are intended to allow approximately 20.5 miles of stream to rehabilitate itself through natural processes. The improvement in habitat will support LCT. Grazing management methods such as those to be employed under the Willow Creek Plan have proven successful in increasing LCT numbers. Newmont's Maggie Creek Watershed Restoration Project is a good example of such success.

The Willow Creek Plan establishes criteria to assure the success of the grazing management. Those criteria include: (1) Riparian Condition Class (a combination of bank stability and cover); (2) stream width-to-depth ratio and (3) Proper Functioning Condition. The Willow Creek Plan prescribes monitoring designed to ensure that these criteria are met.



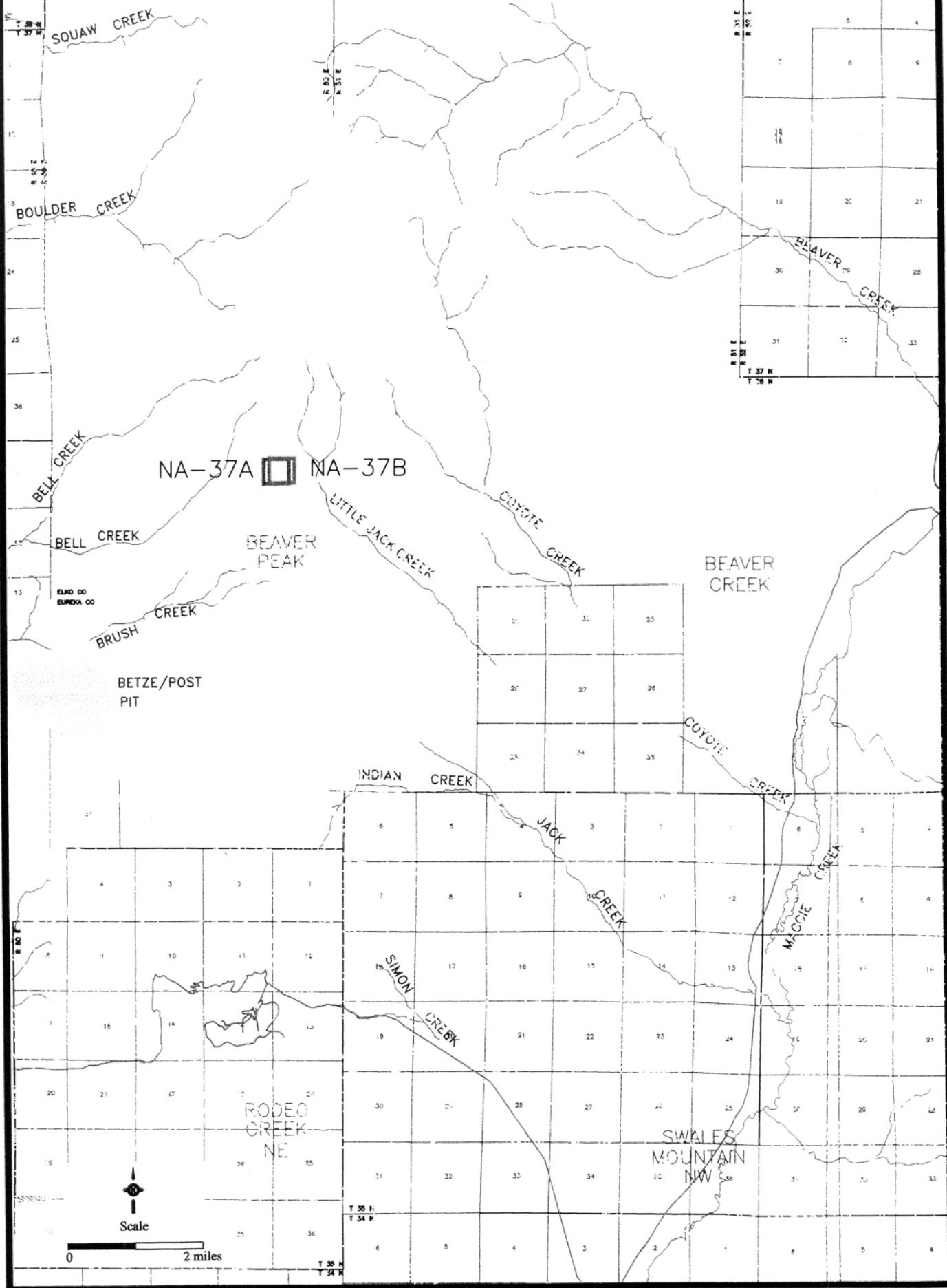


Figure 2 Location of NA 37A & NA 37B

The Willow Creek Plan, as off-site mitigation, is the preferred mitigation alternative for important reasons. It provides immediate benefits to the species. The value of such immediate benefits is much less speculative than the potential benefits of future measures. Moreover, the benefit is not contingent on any actual impact.

To improve LCT habitat in the Maggie Creek Basin, the BLM has elected to use some of the Riparian Trust Fund from the 1991 EIS Record of Decision to replace one or more culverts in the basin, especially the culvert on Beaver Creek, which are acting as barriers to fish migration. Replacing the culverts with a more fish-friendly design will enhance metapopulation potential in the Maggie Creek Basin.

In the event that the monitoring program concludes that impacts to LCT streams will occur, the Long Term Environmental Monitoring and Mitigation Trust Fund (see section IX) will be available to mitigate the impact. Such impacts, if they do occur, will not occur for several decades in the future and will be temporary.

VII. Cultural Resources

A. Summary of Projected Impacts

The BLM has identified two traditional cultural properties: the Tosawihi Chert Quarry, which is located approximately 18 miles northwest of the mine, and the Rock Creek site, which is located approximately 19 miles southwest of the mine. BLMs analysis has concluded there is no potential for effects to the Tosawihi Quarry.

The Rock Creek site is located along the banks of Rock Creek at the upstream end of Lower Rock Creek Gorge. Model projections indicate that Barrick's dewatering activities are not expected to have a direct impact on the Rock Creek site. The cumulative impacts analysis, relying on Newmont's model, predicts that there could be a temporary reduction of up to 1.5 cfs in Rock Creek's base flow in the future.

B. Monitoring

Monitoring will consist of a continuation of the existing monitoring plan established by the 1991 EIS and expanded since then. As established by the 1991 EIS, monitoring will be conducted by Barrick until such monitoring is no longer considered necessary by regulatory authorities. After December 31, 2030, the costs of said monitoring will be paid for by the Long Term Monitoring Trust Fund established by Barrick.

C. Mitigation

Barrick owns significant water rights in the Rock Creek basin, primarily on Rock Creek and its primary tributary, Willow Creek. Although Barrick disagrees with the conclusions of the Newmont hydrologic model, Barrick will provide mitigation in light of the uncertainty caused by that model. Barrick will convey a 1.5 cfs in-stream flow

right to the Nevada Division of Wildlife and BLM for wildlife purposes. The designated place of use of the water right will be from RCK-1 to RCK-4 (see figure 4). This approach provides immediate and certain benefits to the Rock Creek traditional cultural property site. Moreover, such conveyance is permanent while the projected impact is temporary. Finally, dedication of the water right is easier to measure and more certain than other mitigation strategies.

VIII. Funding for BLM Monitoring

As outlined above, Barrick is providing a variety of mitigation measures designed to enhance biological resource values. BLM's participation in the implementation of mitigation and establishment of monitoring programs will require the time of BLM staff and divert staff from other programs. To reduce the impact on BLM human resources, Barrick will provide funding to be used toward a BLM staff position. Barrick will provide the BLM with \$30,000 per year, beginning in 2002 and continuing until the year 2011 to be used to pay a portion of a BLM staff biologist position.

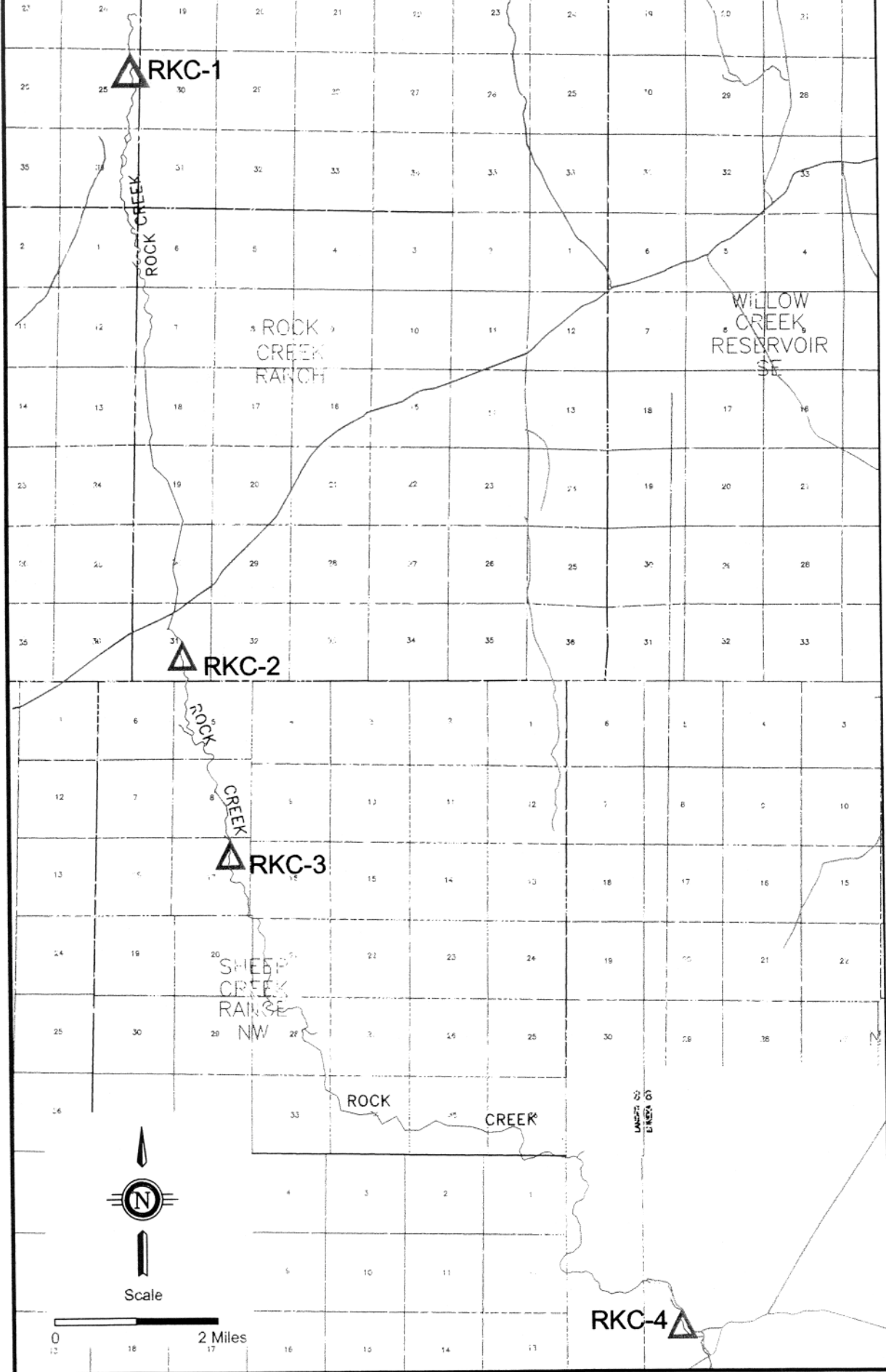
IX. Trust Funds

In connection with the 1991 EIS, Barrick established two long-term trust funds: the Long-Term Monitoring Fund and The Long-Term Environmental Monitoring and Mitigation Fund (LTEM MF). Both funds are held in trust for the benefit of the BLM by the Bank of America, as trustee, under the Barrick Goldstrike Mines Inc. Irrevocable Trust.

The Long-Term Monitoring Fund was established to fund monitoring that would occur after the year 2030. Barrick may draw on the fund to pay the costs of monitoring. If, however, Barrick is no longer able to conduct the monitoring, the fund is available for the BLM to pay for the monitoring. The initial balance of the Long-Term Monitoring Fund was \$250,000. As of March 30, 2001, the balance of the Long-Term Monitoring Fund was \$447,297.45. Since the Long-Term Fund was established, it has grown at a rate of 6.14% annually. Because of the expanded dewatering, the time frame for the cone of depression to reach its maximum extent has increased from about 30 years to around 100 years. Monitoring will probably not be necessary after the cone of depression begins to contract towards its eventual steady-state position.

Barrick believes the Long-Term Monitoring Fund, as it exists, is more than adequate to cover the annual costs of monitoring, estimated to be \$36,000 per year in 2001 dollars. Nevertheless, to provide even more certainty that adequate funding for monitoring will exist, Barrick will deposit an additional \$300,000 in the Long-Term Monitoring Fund.

If in 2080, or anytime thereafter, BLM determines that the Long-Term Monitoring Trust Fund, or any part of it, is not necessary, such funds may be transferred to the LTEM MF. The LTEM MF was established to be used for the review, monitoring and



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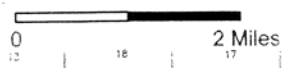
△ RKC-2

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Scale



ROCK CREEK RANCH

WILLOW CREEK RESERVOIR
SE

SHEEP CREEK RANGE
NW

ROCK CREEK

LINE 6

mitigation of unexpected impacts not predicted by the 1991 EIS. This fund would also be available for mitigation of impacts not projected by the SEIS, including without limitation, unexpected impacts to LCT streams. The initial balance in this fund was \$1 million. As of March 30, 2001, the balance of the LTEM MF was \$1,722,869.08. Since the LTEM MF was established it has grown at an annual rate of 5.73%. Assuming it continues to grow at the same rate, the LTEM MF will grow to more than \$140 million by the year 2080. The enhanced Long-Term Monitoring Fund increases the potential for pour-over into the LTEM MF. Accordingly, no addition to this fund is proposed.